

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A seal assembly comprising:
~~for sealing an annular space between~~ an inner pipe and an outer pipe in a double- walled subsea pipeline;
an annular space formed between the inner pipe and the outer pipe; and
a seal sealing the annular space.
wherein the ~~which~~ seal assembly: (a) under normal operating conditions is in a non-sealing position which allows the passage of a gas through ~~said the~~ seal assembly; and
(b) wherein the seal is actuatable from a the non-sealing position to a sealing position in response to ~~the~~ entry of liquid into ~~said the~~ annular space.
2. (Currently Amended) A seal assembly according to claim 1 ~~which~~ wherein the seal (a) in the non-sealing position provides an opening in the annular space to allow ~~the~~ passage of a the gas through the seal assembly; and wherein the seal (b) comprises an annular member and a moveable block blocking means such that entry of liquid into ~~said the~~ annular space causes movement of ~~said the block blocking means~~ to close ~~said the~~ opening in the annular space.
3. (Currently Amended) A seal assembly according to claim 2 wherein the block blocking means is moveable under pressure of liquid flow.
4. (Currently Amended) A seal assembly according to claim 2 ~~which~~ wherein the seal comprises a liquid-sensitive material and wherein the block blocking means is moveable as a result of interaction of the liquid with ~~said the~~ liquid-sensitive material.
5. (Currently Amended) A seal assembly according to claim 3 wherein

- (a) the annular member comprises one or more orifices ; and
- (b) the moveable block ~~blocking means~~ comprises a diaphragm and a closure member such that flow of liquid in ~~said~~ the annular space causes movement of the diaphragm which causes movement of the closure member to close ~~said~~ the one or more orifices.

6. (Currently Amended) A seal assembly according to claim 5 wherein the diaphragm and the closure member are both annular in shape.

7. (Currently Amended) A seal assembly according to claim 2 wherein:

- (a) the annular member comprises one or more valves; and
- (b) ~~said~~ each of the valves ~~each comprising~~ comprises one or more orifices and ~~said~~ the moveable block ~~blocking means~~ such that flow of liquid in ~~said~~ the annular space causes movement of the moveable block ~~blocking means~~ to close ~~said~~ the one or more orifices.

8. (Currently Amended) A seal assembly according to claim 7 wherein ~~a valve~~ each of the valves comprises a blocking plate with an orifice and the moveable block ~~blocking means~~ comprises a diaphragm and a closure member, wherein the ~~which~~ closure member has apertures such that flow of liquid in the annular space causes movement of the diaphragm which causes movement of the closure member against the blocking plate closing the orifice in the blocking plate and the apertures in the closure member.

9. (Currently Amended) A seal assembly according to claim 7 wherein the moveable block ~~blocking means~~ comprises a biased element ~~means~~ attached to a closure member ~~which and the~~ biased element ~~means~~ is held in a biased position by ~~means of~~ a liquid-sensitive material such that flow of liquid in ~~said~~ the annular space causes interaction of ~~said~~ the liquid with said liquid-sensitive material causing said liquid-sensitive material to release the biased ~~means~~ element so that said biased ~~means~~ element effects movement of the closure member to close ~~said~~ the one or more orifices.

10. (Currently Amended) A seal assembly according to claim 9 wherein the biased ~~means~~ element is a spring.

11. (Previously Presented) A seal assembly according to claim 9 wherein the liquid-sensitive material is a water-soluble salt.

12. (Currently Amended) A seal assembly according to claim 7 wherein the annular member comprises one or more tubes ~~in which tubes~~ and the one or more valves are situated in the tubes.

13. (Currently Amended) A seal assembly according to claim 2 wherein the annular member is dimensioned so ~~that it will~~ as to extend from ~~the~~ an inner wall of the outer pipe to an ~~the~~ outer wall of the inner pipe and ~~will~~ as to be in sealing contact with each of ~~said the~~ the inner and ~~said the~~ the outer walls.

14. (Currently Amended) A seal assembly according to claim 2 wherein

(a) the annular member is dimensioned so ~~that it will~~ as to be in sealing contact with only one of ~~the~~ an inner wall of the outer pipe and ~~the~~ an outer wall of the inner pipe and ~~will~~ so as to provide an opening in ~~said the~~ the annular space between the annular member and the wall with which it is not in sealing contact; and

(b) the moveable block ~~blocking means~~ comprises a resilient ~~means~~ element which is deformable under the pressure of liquid flow in the annular space to close ~~said the~~ the opening.

15. (Currently Amended) A seal assembly according to claim 14 wherein the annular member has a longitudinal end face which has a recess to define upper and lower arms and wherein one of ~~these the~~ the arms is the resilient ~~means~~ element deformable under the pressure of liquid flow in the annular space to close said opening.

16. (Currently Amended) A seal assembly according to claim 15 ~~which comprises~~ further comprising an annular restraint ~~restraining means~~ bonded to the upper and lower arms of the annular member.

17. (Previously Presented) A pipe system comprising an inner and an outer pipe and a seal assembly according to claim 1.

18. (Previously Presented) A valve suitable for use in the seal assembly of claim 7.